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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/665,088	09/22/2003	Takanori Kamoto	1114-189	6085

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EXAMINER	
FAISON GEE, VERONICA FAYE	

ART UNIT	PAPER NUMBER
1755	

MAIL DATE	DELIVERY MODE
07/25/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/665,088	KAMOTO ET AL.	
	Examiner	Art Unit	
	Veronica Faison-Gee	1755	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 December 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *54-96* is/are pending in the application.

4a) Of the above claim(s) *71-74 and 93-96* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *54-70 and 75-92* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *22 September 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 54-70 and 75-92, drawn to ink composition, classified in class 106, subclass 31.27.

II. Claims 71-74 and 93-96 are drawn to recording method, classified in class 427, subclass 466+.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the product can be used with a materially different process such as a ballpoint pen, textile padding and letterpress.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

This application contains claims 71-74 and 93-96 drawn to an invention nonelected with traverse in the reply filed on April 7, 2005. A complete reply to the final

rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Applicant's election with traverse of Group I in the reply filed on 4-07-05 is acknowledged. The traversal is on the ground(s) that the search of all the claimed subject matter is not undue burden for Examiner. This is not found persuasive because the invention of Group II does not require the invention of Group I.

The requirement is still deemed proper and is therefore made FINAL.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 54-57, 60, 62, 70, 75-79, 82, 84, 85, and 92 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 21, 22, 47 and 48 of copending Application No. 10/713,226. Although the conflicting claims are not identical, they are not patentably distinct from each other because both ink composition disclose dynamic surface tension and static

surface tension wherein the difference between the two surface tension overlap (i.e in 10/665,088 the difference is represented by $0 \leq$ [dynamic surface tension (mN/m)] – [static surface tension (mN/m)] ≤ 7 (mN/m) and in 10/713,226 the difference is 0 mN/m $\leq$ dl $\leq$ 15 mN/m wherein dl is difference between dynamic surface tension and static surface tension).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 54-58, 60-65, 68,69, 75, 77-80, and 82-87, 89-91 are rejected under 35 U.S.C. 102(b) as being anticipated by Kato (US Patent 6,440,203).

Kato teaches an ink composition comprising a first colorant, a second colorant, a penetrating agent, water and a water-soluble organic solvent. The first colorant is a pigment which is dispersible and/or dissolvable in water without any dispersant (abstract and col. 2 lines 32-45). The reference also teaches that any pigment can be used (col. 2 lines 64-65). Pigments such as carbon black, Pigment Yellow 74, 138, 150 and 180, Pigment Red 122 and 202, Pigment Blue 15:3 and 15:4 may be present in the ink composition in the amount of 0.1 to 10 percent by weight (col. 3 lines 31-56). The

penetrating agent include glycol ether and/or acetylene glycol surfactants (which general has the formula set forth by Applicant of page 59), wherein the glycol ether is present in the amount of 1 to 20 percent by weight and the acetylene glycol is present in the amount of 0.1 to 2 percent by weight (col. 7 line 51-col. 8 line 44). The ink composition has a surface tension of about 25 to 50 mN/m (col. 8 lines 45-47). The aqueous solvent comprises water and a water-soluble organic solvent (col. 8 lines 52-53). The ink may further comprise a wetting agent including ethylene glycol, diethylene glycol, and alkyl ether of polyhydric alcohols present in the amount of 1 to 40 percent by weight (col. 9 lines 4-25). The reference also teaches that an ink set comprising a black, cyan, magenta and yellow inks (col. 10 lines 51+). The composition as taught by Kato appears to anticipate the claimed invention.

Claim 76 is rejected under 35 U.S.C. 102(b) as being anticipated by Lauw (US Patent 5,534,051).

Lauw teaches a specific dye set used for thermal ink jet printing comprising Direct Blue 199 and Acid Blue 9, Reactive Red 180 and Acid Red 52 and Acid Yellow 23 (abstract and col. 2 line 37-col. 3 line 6). The cyan, magenta, and yellow ink composition comprises 0.1 to 4 percent by weight of at least one dye, about 3 to 20 percent by weight of at least one diol, 0 to 5 percent by weight of at least one glycol ether, about 3 to 9 percent by weight of 2-pyrrolidone, about 0.5 to 5 percent by weight of at least one component selected from the group consisting of surfactants, buffers and biocides, about 3 to 11 percent by weight of at least one inorganic salt and the balance water (col. 3 lines 53-61). The reference further teaches that the surfactant may be an

alcohol ethoxylates nonionic surfactants such as Tergitol 15-S-15 (col. 5 lines 2-43), Tergitol 15-S series surfactants available from Union Carbide. Examples of surfactants include those of the general formula C_{11-15} H_{23-31} O?CH_2 CH_2 O!$_x$ H, which appears to be encompassed by the surfactants set forth on page 59-60 of the specification. The composition as taught by Lauw appears to anticipate the claimed invention.

Claim Rejections - 35 USC § 103

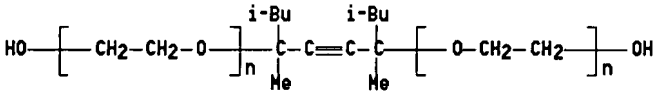
The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 54-62, 64, 65, 68, 69, 75, 77-84, 86, 87, 90 and 91 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yatake (US Patent 5,746,818).

Yatake teaches an ink composition comprising a pigment dispersible and/or soluble in water without the aid of any dispersant and a glycol ether selected from the group consisting of diethylene glycol mono-n-butyl ether, triethylene glycol mono-n-butyl ether, propylene glycol mono-n-butyl ether and dipropylene glycol mono-n-butyl ether (abstract and col. 2 lines 28-35). The reference also teaches a recording apparatus comprising a recording head is provided independently of an ink tank and an ink composition (col. 2 lines 48-50). The reference teaches that the glycol ether can effectively inhibit the bleeding or feathering, realizing a high-quality image (col. 2 lines 12-14). The pigment may be subjected to surface treatment to bond at least one function group selected from carbonyl, carboxyl, hydroxyl and sulfonyl groups or a salt thereof, wherein the pigment may be carbon black (col. 3 lines 22-32) and present in the amount of 2 to 15 percent by weight (col. 3 lines 60-61). The glycol ether may be present in the amount of 3 to 30 percent by weight (col. 4 lines 16-19). The reference further teaches components such as 1,5-pentane diol and surfactants are added to improve the solubility of the ink composition (col. 4 lines 20-35). The ink contains acetylene glycol surfactant including Surfynol 104, 82, 465, 485 and TG are present in the ink composition in the amount of 0.5 to 1.5 percent by weight (col. 4 lines 28-37), wherein the Surfynol 465 as the formula below which appears to be a preferred surfactant set forth in Applicant specification page 59:



The reference remains silent to the ink properties set forth in claim 1. However it is the position of the Examiner that it would be obvious to one of ordinary skill in the art that the ink composition as taught by Yatake would have similar properties as claimed by Applicant absence evidence to the contrary.

Claims 54-62, 64-69, 75-84, 86-91 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashi (US Patent 6,500,248).

Hayashi teaches an ink composition comprising a pigment, a 1,2-alkanediol, glycerin, a polyhydric alcohol derivative and/or an acetylene glycol surfactant, a water-soluble organic solvent, and water. The reference further teaches that the ink composition has a surface tension of not more than 40 mNm-1 at 20°C wherein the ink can provide good print quality and can realize continuous printing (abstract and col. 2 lines 47-60). The colorant may be a inorganic or organic pigment without particular limitations. The pigment may be subjected to surface treatment to attach at least one function group selected from carbonyl, carboxyl, hydroxyl and sulfonyl groups or a salt thereof (col. 4 lines 19-43). The pigment may be added to the ink composition in the amount of 0.5 to 15 percent by weight (col. 5 lines 7-9). The polyhydric alcohol may include diethylene glycol mono-n-butyl ether, triethylene glycol mono-n-butyl ether, propylene glycol mono-n-butyl ether and dipropylene glycol mono-n-butyl ether, which may be used alone or in combination in the amount of 3 to 30 percent by weight (col. 5 lines 19-33). The acetylene glycol surfactant is added in the amount of about 0.1 to 3 percent by weight (col. 5 line 42-6 line 10) (wherein the general formula has the formula set forth by Applicant of page 59). The ink composition comprises a water-soluble

organic solvent and water as the main solvent. The water-soluble organic solvent may be ethylene glycol, diethylene glycol, triethylene glycol, dipropylene glycol, and 1,5-pentanediol are present in the amount 1 to 30 percent by weight (col. 6 lines 25-45). The reference further teaches that an ink composition containing a pigment wherein the ink is delivered from the front face of the nozzle can stir the ink permitting the ink to be stably ejected. This can be achieved by pressurizing the ink, by means of pressurizing means for ejecting the ink (col. 10 line 66-col. 11 line 7). The reference remains silent to the ink properties set forth in claim 1. However it is the position of the Examiner that it would be obvious to one of ordinary skill in the art that the ink composition as taught by Hayashi would have similar properties as claimed by Applicant absence evidence to the contrary.

Claims 66, 67, 88 and 89 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kato (US Patent 6,440,203) in view of JP 41-52925 and Uemura et al (2001/0029870).

Kato is described above, but fails to teach the specific combination of pigments set forth in claims 66, 67, 88, and 89.

JP 41-52925 teaches a recording ink using a pigment composed of at least three colors including Pigment Blue 15:4 or the like phthalocyanine pigment as a cyan pigment, Pigment Red 122 or the like quinacridone as a magenta pigment and Pigment Yellow 151 or the like benzimidazolone as a yellow pigment (English Abstract); wherein the ink may be used in an ink jet recording method.

Uemura et al teaches benzimidazolone pigments including Pigment Yellow 120, 151, 154, 156, 175, 180, 181 and 194.

The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have replaced Pigment Yellow 151 with Pigment Yellow 180 because the substitution of art recognized equivalents as shown by Uemura et al would have been within the level of ordinary skill in the art.

Therefore it would have been obvious to use the pigment combination taught by JP 41-52925 in view of Uemura et al, because Kato teaches the use of pigments taught by JP 41-52925.

Response to Arguments

Applicant's arguments filed 12-18-06 have been fully considered but they are not persuasive.

Applicant argues the Examiner's basis for provisionally obvious double patenting rejection is a misinterpretation of the claims because the current applicant is directed to difference in the surface tensions of the ink and 10/713,226 is directed to the difference in the surface tensions of the surfactant. The Examiner respectfully disagrees with Applicant. In the specification, Applicant states that by adding a surfactant it is possible to easily control the dynamic surface tension; therefore by the presence of the surfactant at or above the critical micelle concentration, it is rendered possible to fully exploit the effect of the surfactant and to maintain the dynamic surface tension and the static surface tension, controlled by the surfactant (See pages 15, 27, 29, and 30 of

10/665,088). In the copending application (10/713,226), states that the ink composition which controls relationship between a dynamic surface tension and static surface tension of the ink composition by defining nature of the surfactant to be included in the ink composition. In other words, the dynamic surface tension and static surface tension of the ink can be controlled by the surfactant (See pages 7 and 9 of 10/713,226). Therefore the obvious double patenting rejection has been maintained for the reasons stated above.

Applicant stated that Kato is not believed to describe an ink containing a surfactant, which is present at least in an amount of a critical micelle concentration. The Examiner respectfully disagrees. The surfactant taught by Kato is one of the surfactant exemplified in Applicants specification and used in the same amount as taught by Applicant.

Applicant argues that the Examiner has not demonstrated where Lauw inherently or literally teaches the invention of claim 76. The reference teach a dye composition comprising surfactants that appear to be defined by one of the general formulas set forth on page 59-60 and used in an thermal ink jet printer that has the capabilities of being printed with the limitation of the claim.

Applicant argues that the Examiner's position appears to be relying on an allegation of inherency, which is inappropriate with respect to the 103 rejections. The Examiner respectfully disagrees with Applicant. The references cited in the rejections teach surfactants taught by Applicant on page 59 and 60 of the specification in the same concentration. The surface tensions claimed by Applicant is a property of the

surfactant, "Products of identical chemical composition can not have mutually exclusive properties." A chemical composition and its properties are inseparable.

With respect to Hayashi, Applicant argues that the fails to teach or suggest the relationship between the dynamic and static surface tension or the unexpected beneficial properties. The Examiner agrees, however the reference teaches surfactants (acetylene glycol surfactant is added in the amount of about 0.1 to 3 percent by weight wherein the general formula has the formula set forth by Applicant of page 59), which appears to be present in the same amount as taught in the specification. One of ordinary skill in the art would conclude that the ink composition as taught by Hayashi would have similar properties as claimed by Applicant absence evidence to the contrary, because Applicant states that the to maintain the dynamic surface tension and the static surface tension is controlled by the surfactant in the specification.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Veronica Faison-Gee whose telephone number is 571-272-1366. The examiner can normally be reached on Monday-Thursday and alternate Fridays 8 am to 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on 571-272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

VFG
7-23-07

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